

REMARKS

Claims 2, 3, and 5-8 are pending in the application. Claims 1 and 4 have been canceled without prejudice or disclaimer. Claims 2, 3, 5 and 6 have been amended. New claims 7 and 8 have been added. Changes have been made to the Specification to correct errors in reference numbers. No new matter has been added. Reconsideration of the claims is respectfully requested.

Rejection under 35 U.S.C. § 112

Claims 1-6 are rejected under 35 U.S.C. § 112, second paragraph for being indefinite. In particular, several problems were indicated to exist in Claim 1. Claim 1 has been canceled and replaced with new claim 7, which more clearly describes the claimed subject matter. The rejection of claim 1 is, therefore, moot.

Although rejected under § 112, no particular problems were indicated for claims 2-6, it is understood that these claims were rejected due to their dependence on a rejected claim. Claims 2, 3, 5 and 6 have been amended, but these amendments were not made for reasons of patentability, since the rejection under § 112 was based on their dependence from rejected claim 1. These claims have been amended to clarify the subject matter of the invention.

It is believed that all pending claims comply with 35 U.S.C. § 112.

Rejection under 35 U.S.C. § 102

Claims 1-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Coldren (U.S. Patent no. 4,896,325). Coldren teaches a tunable laser that comprises Bragg reflectors at either end. The mirrors have narrow, spaced reflective maxima, with the spacing between the reflective maxima being different for the different mirrors. Only one of the reflective maxima of each of the mirrors can be in correspondence and thereby provide a low loss window at any time, and operates in a manner similar to a Vernier scale (abstract).

Claim 1 has been canceled and replaced with new claim 7. The invention of new claim 7 is directed to a method of evaluating a tunable laser and determining suitable laser operation points. The laser has two or more tuning sections in which injected tuning currents can be varied. The two or more tuning sections comprise at least a

phase section and a reflector section. The method includes leading part of the output light emitted by the laser to a first detector that produces a first detector signal indicative of output power of the laser. The light is also lead to a second detector via a Fabry Perot filter. The second detector produces a second detector signal at least partly indicative of the wavelength of the light emitted by the laser. The tuning currents are swept to pass through different current combinations. The current through the reflector section is swept in one direction and then in a second direction. The ratios of the first and second detector signals are corresponding to the different current combinations are determined. A control combination for the tuning currents, corresponding to an operation point, is stored when the ratio of the first and second detector signals lies within a predetermined range signifying that the emitted light lies within one of a number of wavelengths given by the Fabry-Perot filter and the ratio lies within the predetermined range when the reflector current is swept in both the first and second directions.

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628,631, 2 USPQ2d 1051 1053 (Fed. Cir.) 1987). "The identical invention must be shown in as complete detail as is contained in the...claim." Richardson v. Suzuki Motor Co., 868 F. 2d1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Therefore, if a reference does not teach every element of the claim, then the reference does not anticipate the claim (see MPEP § 2131).

It is stated in the Office Action that Coldren discloses a tunable laser that includes two or more tunable sections in which injected current can be varied, of which at least one is a reflector section and one is a phase section. It is further stated that the method steps are inherent in the disclosure because of the indefinite issues discussed above.

Applicant respectfully disagrees that Coldren discloses the inventive method. Coldren teaches a type of laser that contains at least a reflector section and a phase section and so might be characterized using the method of the present invention. Coldren does not, on the other hand, teach how to characterize the laser, i.e. determine which particular combinations of currents in the different tuning sections are appropriate for operating the laser at desired wavelengths.

More particularly, Coldren fails to teach leading part of the output light emitted by the laser to a first detector that produces a first detector signal indicative of output power of the laser and to a second detector via a Fabry Perot filter, the second detector producing a second detector signal at least partly indicative of the wavelength of the light emitted by the laser. Coldren also fails to teach sweeping the tuning currents to pass through different current combinations, including sweeping a current through the reflector section in one direction and then in a second direction. Coldren also fails to teach determining ratios of the first and second detector signals corresponding to the different current combinations. Lastly, Coldren fails to teach storing a control combination for the tuning currents, corresponding to an operation point, when the ratio of the first and second detector signals lies within a predetermined range signifying that the emitted light lies within one of a number of wavelengths given by the Fabry-Perot filter and the ratio lies within the predetermined range when the reflector current is swept in both the first and second directions.

Accordingly, since Coldren fails to teach the steps of the method claimed in claim 7, claim 7 is not anticipated by Coldren and is allowable.

Dependent claims 2, 3, 5 and 6, which depend from claim 7 and further define the invention of claim 7, were also rejected under 35 U.S.C. §102(b) as being anticipated by Coldren. While Applicant does not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claim 7. Therefore, dependent claims 2, 3, 5 and 6 are also in condition for allowance.

While the above comments include a comparison between new claim 7 and Coldren, Applicant respectfully asserts that the comments are also applicable to a comparison between claim 1 and Coldren, and that Coldren does not teach all the elements of Claim 1. Claim 7 was not added to overcome the rejection under 35 U.S.C. § 102.

In view of the amendments and reasons provided above, it is believed that all pending claims are in condition for allowance. Applicant respectfully requests favorable reconsideration and early allowance of all pending claims.

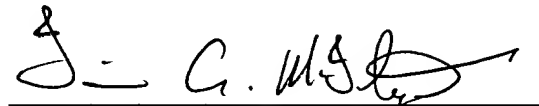
If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Iain A. McIntyre at 952-253-4110.

Respectfully submitted,

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